

SECTION 15101 – VALVE AND GATE OPERATORS

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The CONTRACTOR shall provide valve and gate operators and appurtenances, complete and operable, in accordance with the Water Utilities Manual. The Work also includes coordination of design, assembly, testing and installation. The provisions of this Section shall apply to all valves and gates, except where otherwise indicated in the Contract Documents.
- B. Unit Responsibility: A single manufacturer shall be made responsible for furnishing the Work and for coordination of design, assembly, testing, and installation of the Work of each type of valve and gate; however, the CONTRACTOR shall be responsible to the AGENCY for compliance with the requirements of each valve and gate section. Unless otherwise indicated, the single manufacturer shall be the manufacturer of the valve or gate. Where two or more valve or gate operators of the same type or size are required, the operators shall all be produced by the same manufacturer.

1.2 RELATED SECTIONS

- A. Section 01300 – Record Drawings and Submittals
- B. Section 15100 – Valves, General
- C. Section 15102 – Resilient Wedge Gate Valves
- D. City of Oceanside Water, Sewer, and Recycled Water Design and Construction Manual (Oceanside Water Utilities Manual)

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Except as otherwise indicated in this Section of the Specifications, the CONTRACTOR shall comply with the latest adopted edition of the Standard Specifications for Public Works Construction (SSPWC) together with the latest adopted editions of the City of Oceanside Water, Sewer, and Reclaimed Water Design & Construction Manual.
- B. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
 - 1. ANSI/AWWA C500 Gate Valves for Water and Sewerage Systems
 - 2. ANSI/AWWA C540 Power-Actuating Devices for Valves and Sluice Gates
 - 3. NFPA/NEC NFPA 70 National Electrical Code (as applicable)
 - 4. ANSI/NEMA National Electrical Manufacturers Association (As Applicable)

1.4 CONTRACTOR SUBMITTALS

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- A. General: Submittals shall be furnished in accordance with the standard specifications.
- B. Shop Drawings: Shop drawings of all operators shall be submitted together with the valve and gate submittals as a complete package.

PART 2 - PRODUCTS

2.1 GENERAL

- A. General:
 - 1. Furnish all operators complete and operable with gears, extensions, and other necessary appurtenances as applicable.
 - 2. Furnish all operators complete and operable with mounting hardware, motors, gears, controls, wiring, enclosures, solenoids, handwheels, levers, chains, extensions, and other necessary appurtenances as applicable.
 - 3. All above ground valves shall have operators with position indicators. All operators shall be capable of holding the valve in any intermediate position between fully-open and fully-closed without creeping or fluttering.
- B. Manufacturers: Where indicated, certain valves and gates may be provided with operators manufactured by the valve or gate manufacturer.
- C. Materials: All operators shall be current models of the best commercial quality materials and liberally sized for the maximum expected torque. All materials shall be suitable for the environment in which the valve or gate is to be installed.
- D. Standard: Unless otherwise indicated and where applicable, all operators shall be in accordance with ANSI/AWWA C540.

2.2 MANUAL OPERATORS

- A. General: Unless otherwise indicated, all valves and gates shall be furnished with manual operators. Valves in sizes up to and including 3.5-inches shall have direct acting lever or handwheel operators of the manufacturer's best standard design. Larger valves and gates shall have gear-assisted manual operators, with a maximum operating pull of 60 pounds on the operating nut. All valves 4 to 24-inches in diameter may have traveling-nut operators, worm-gear operators, spur- or bevel-gear operators, as indicated, or if not indicated, as appropriate for each valve. All actuators shall have a built in 2" operating nut as part of the valve assembly.
- B. Buried Valves: Where so indicated, buried valves shall be in valve boxes with covers of ample size to allow operation of the valve operators. Valve boxes shall be in accordance with the Water Utilities Manual. Covers of valve boxes shall be

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permanently labeled in accordance with the Water Utilities Manual. Floor Boxes shall be in accordance with the Water Utilities Manual.

- C. Manual Worm-Gear Operator: The operator shall consist of a single or double reduction gear unit contained in a weatherproof cast-iron or steel body with cover and minimum 12-inch diameter handwheel compatible with a 2-inch nut, suitable for buried service where indicated. The operator shall be capable of 90-degree rotation and shall be equipped with travel stops capable of limiting the valve opening and closing. The operator shall consist of spur or helical gears and worm-gearing. The spur or helical gears shall be of hardened alloy steel and the worm-gear shall be alloy bronze. The worm-gear shaft and the handwheel shaft shall be of 17-4 PH or similar stainless steel. All gearing shall be accurately cut with hobbing machines. Ball or roller bearings shall be used throughout. Operator output gear changes shall be mechanically possible by simply changing the exposed or helical gearset ratio without further disassembly of the operator. All gearing shall be designed for a 100% overload.

PART 3 - EXECUTION

3.1 GENERAL

- A. Installation shall be as specified herein.

3.2 INSTALLATION

- A. All valve and gate operators and accessories shall be installed in accordance with the standard specifications. .
- B. All resilient seated gate valves and gate operators and accessories shall be installed in accordance with the standard specifications. .

**** END OF SECTION ****